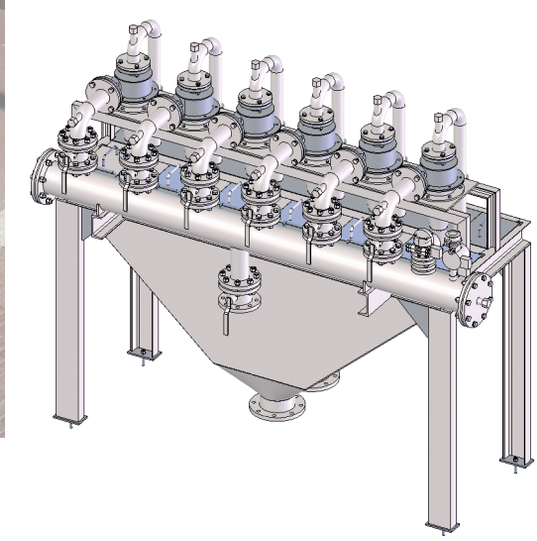
HYDROCYCLONE



Application

Hydrocyclone is used to separate two-phase mixtures consisting of liquids and solids. They are used in the process of lime milk purification. Lime milk produced in the slaking process is a mixture of calcium hydroxide, water and solid impurities of different fractions. The impurities are composed of calcined lime, unburnt lime stone, non-calcareous inclusions and unburnt fuel fed to the lime kilns. The fine fraction of Impurities is transported to hydrocyclones together with lime milk. The purpose of hydrocyclone is to separate the liquid phase from solid phase, which are not to be used in the technological processes. As a standard, hydrocyclones are mounted on the lime milk purification line before the pure milk tanks. They are characterized by high efficiency and do not require frequent maintenance works.

Design and principles of operation

Hydrocyclone, consists of head and a cone. Construction elements are made of cast iron. They can be installed as single units or be combined in a battery of hydrocyclones, connected by an inlet manifold and mounted on a supporting frame. Depending on the application, the inner surface of the cone can be made of cast iron or be covered with ceramic, hard rubber or composite coating materials. The mixture (liquid with solid phase particles) is poured under pressure from the collector through a pressure pipe to the cyclone head. The inlet is located tangentially to cyclone's head diameter. The mixture is swirled inside the cyclone. Centrifugal force creates two rotating streams: external (falling) containing heavy particles and internal (lifting) containing liquid. The mixture in the cyclone is separated. All impurities are removed form the cyclone through the lower flange in the outlet cone. Clean lime milk flows through the top outlet in the upper part.

Technical specification

NUMBER OF HEADS		**2**	**3**	**4**	**5**	**7**	**9**
CAPACITY OF HEADS	m^3/h	10	16	20	25	35	45
THE DIAMETER OF THE INLET NOZZLE	mm	47					
THE DIAMETER OF THE OVERFLOW NOZZLE	mm	33					
DIAMETER OF THE OUTLET NOZZLE	mm	12 or 16					

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